

SIBUYANHYGIA, A NEW GENUS OF COLPURINI FROM THE PHILIPPINE REPUBLIC, WITH DESCRIPTIONS OF THREE NEW SPECIES (HETEROPTERA: COREIDAE)

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Abstract.—One new genus (*Sibuyanhygia*) and three new species (*S. callejai*, *S. atra* and *S. sibulana*) collected in the Philippine Republic are described in the tribe Colpurini (Coreidae). Dorsal habitus illustrations and drawings of the male and female genitalia are provided. A key to the known genera of Colpurini from the Philippine Republic is given.

Key Words.—Insecta, Heteroptera, Coreidae, Colpurini, new genus, new species, Philippine Republic

Five genera and eighteen species of Colpurini have been described from the Republic of the Philippines. The genus *Carvalhygia* Brailovsky contains three species (*C. carvalhoi* Brailovsky, *C. milzae* Brailovsky and *C. nigra* Brailovsky). The genus *Hygia* Uhler holds three subgenera: *Colpura* Bergroth with two species (*C. obscuricornis* (Stål) and *C. pallidicornis* (Stål)), *Microcolpura* Breddin with one species (*M. denticollis* (Bergroth)), and *Sphinctocolpura* Breddin with five species (*S. dentifer* (Stål), *S. maculipes* (Stål), *S. obscuripes* (Stål), *S. pictipes* (Stål) and *S. punctipes* (Stål)). The genus *Homalocolpura* Breddin includes four species (*H. aploa* Brailovsky & Barrera, *H. leyteana* Brailovsky & Barrera, *H. parrilloi* Brailovsky & Barrera, and *H. sorbax* Bergroth). The genus *Kekihygia* Brailovsky has two species (*K. luzonica* Brailovsky, and *K. vasarhelyi* Brailovsky). The genus *Typhlocolpura* Breddin has one species (*T. vulcanalis* Bergroth) (Uhler 1861; Stål 1870; Breddin 1900; Bergroth 1916, 1918; Brailovsky & Barrera 1994; Brailovsky 1994, 1995).

The present paper adds one new genus and three new species. Striking features of this new genus are its humeral angles projected into conical teeth or strongly elevated lobes directed upward, ocelli well developed, head without a neck, and abdominal sternite VII of the female with plica and fissura.

KEY TO THE GENERA OF COLPURINI FROM THE PHILLIPPINE REPUBLIC

- 1. Abdominal sternite VII of the female without plica or fissura; antenniferous tubercle armed *Kekihygia* Brailovsky
- 1'. Abdominal sternite VII of the female with plica and fissura; antenniferous tubercle unarmed 2
- 2(1'). Ocelli absent; postocular tubercle extremely reduced or absent *Carvalhygia* Brailovsky
- 2'. Ocelli present, sometimes hard to see; postocular tubercle well developed 3
- 3(2'). Body surface shining; ventral surface of tibiae armed; ventral surface of femora armed with two rows of long spines; rostrum remarkably long, extending to the apex of the last abdominal segment or beyond the abdomen *Homalocolpura* Breddin

- 3'. Body surface rather dull; ventral surface of tibiae unarmed; ventral surface of femora unarmed or with only few small spines; rostrum shorter 4
- 4(3'). Corium and clavus separated by claval suture; hemelytral membrane well developed *Hygia* Uhler
- 4'. Corium and clavus fused; hemelytral membrane reduced 5
- 5(4'). Humeral angles of the pronotum projected into conical lobes, strongly elevated and directed upward . . *Sibuyanhygia* Brailovsky NEW GENUS
- 5'. Humeral angles of the pronotum not exposed . . . *Typhlocolpura* Breddin

SIBUYANHYGIA BRAILOVSKY, NEW GENUS

Type Species.—*Sibuyanhygia sibulana* Brailovsky, NEW SPECIES.

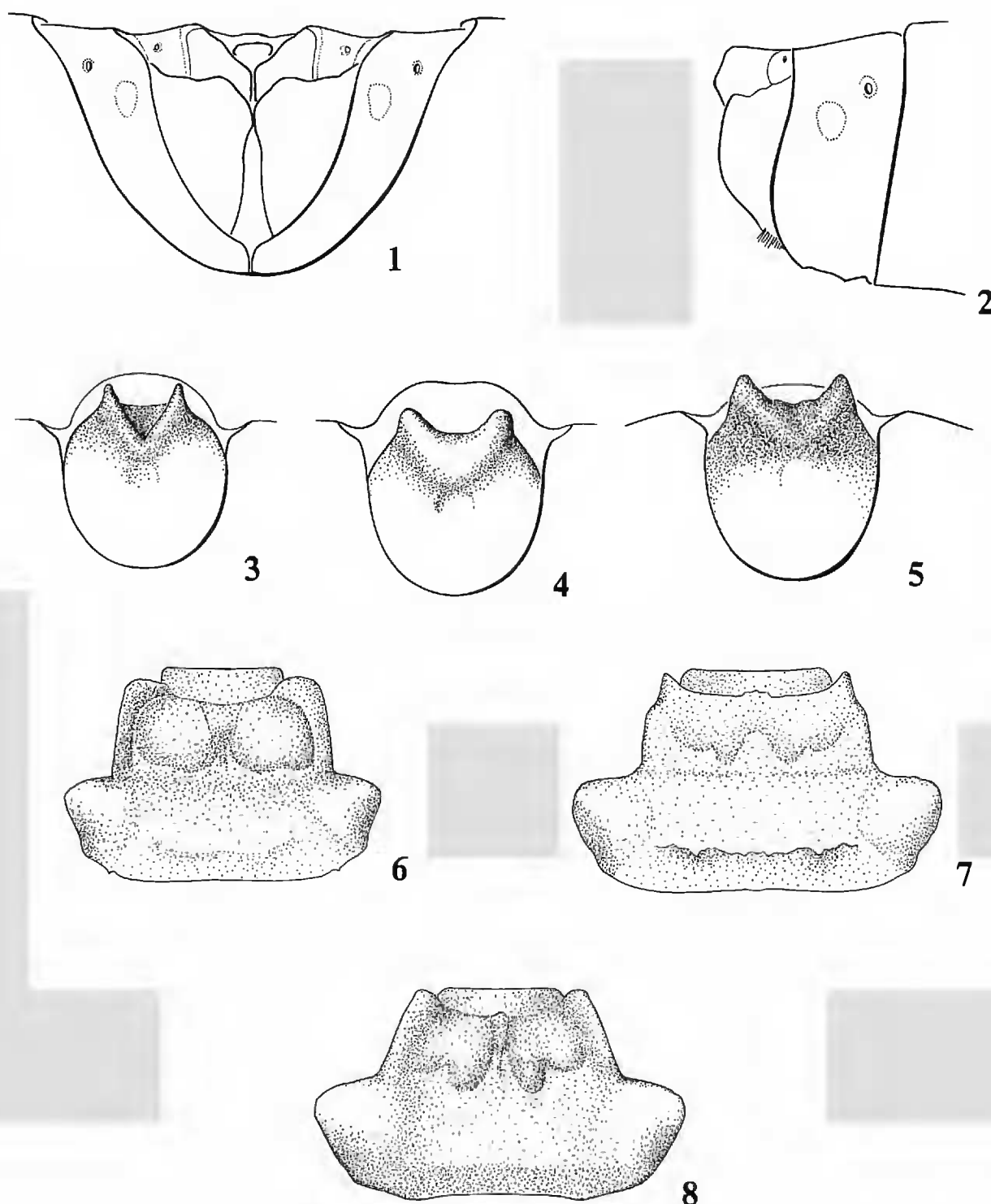
Description.—Head longer than wide, pentagonal, and dorsally slightly convex; tylus unarmed, apically globose, extending anteriorly to and laterally higher than jugae; jugum unarmed, thickened and shorter than tylus; antenniferous tubercle unarmed, quadrate, robust, apically truncated; side of head in front of eye unarmed, and obliquely straight; antennal segment I robust, thickest, slightly curved outward; segments II and III cylindrical and slender; segment IV fusiform; segment II the longest, IV the shortest, and III longer than I; ocelli moderately elevated; preocellar pit deep; eyes spherical and prominent; postocular tubercle protuberant, globose; buccula rounded, elevated, short, not projecting beyond antenniferous tubercle, with sharp anterior projection; rostrum reaching abdominal sternite V; genae unarmed; mandibular plate unarmed. Thorax. Pronotum: Wider than long, trapeziform, non-declivent, and bilobate; anterior lobe longer than posterior lobe; collar wide; frontal angles produced forward as conical rounded teeth; humeral angles projected into rounded lobes, elevated, directed outward, and strongly higher than posterior pronotal disc; posterolateral border obliquely straight; posterior border straight or slightly concave; calli slightly convex (Figs. 6-8). Anterior lobe of metathoracic peritreme elevated and reniform; posterior lobe sharp, small. Legs: Femora armed with two subdistal short spines, and few more scattered along ventral surface; tibiae cylindrical, with longitudinal sulcus indistinct. Scutellum: Triangular, flat, longer than wide, with apex acute. Hemelytra: Brachypterous; clavus and corium fused; membrane reduced, reaching onto the middle third of abdominal tergum V or anterior third of VI, not overlapping, meeting along the midline or with only the inner portion of one membrane overlapping the inner portion of the other. Abdomen: Connexival segments elevated, with posterior angle complete, not extending on a short spine; abdominal sterna with medial furrow, projecting to posterior third of sternite V. Integument: Body surface rather dull. Head, pronotum, scutellum, clavus, corium, abdomen, and exposed parts of genital segments of both sexes usually with circular grayish-white farinose punctures, and each punctuation with short decumbent golden or silvery bristle-like setae; antennae, legs, and abdominal sterna with few long erect setae.

Male Genitalia.—Genital capsule. Posteroventral edge with a pronounced U-shaped concavity, enclosed by two medium sized arms (Figs. 3, 5) or by two robust arms (Fig. 4). Parameres. Shift robust, with anterior lobe slightly convex, and posterior lobe long and slender (Figs. 9-10).

Female Genitalia.—Abdominal sternite VII with plica and fissura; plica triangular, narrow, just reaching middle third of sternite VII; paratergite VIII short, square, with visible spiracle; paratergite IX longer than VIII, rectangular, with inner lobes curved to middle line and overlapping; gonocoxae I enlarged dorsoventrally, in lateral view with external face entire and convex, in caudal view open (Figs. 1-2). Spermatheca. Bulb spherical, duct coiled, with long membrane duct (Fig. 11).

Diagnosis.—*Tachycolpura* Breddin, *Lobogonius* Stål, and *Sibuyanhygia* NEW GENUS, have each humeral angle projected into a conical tooth or a strong lobe, which is elevated, directed upward, and variable in length, buccula with sharp anterior or middle projection, ocelli well developed, antenniferous tubercle unarmed, and abdominal sternite VII of the female with plica and fissura.

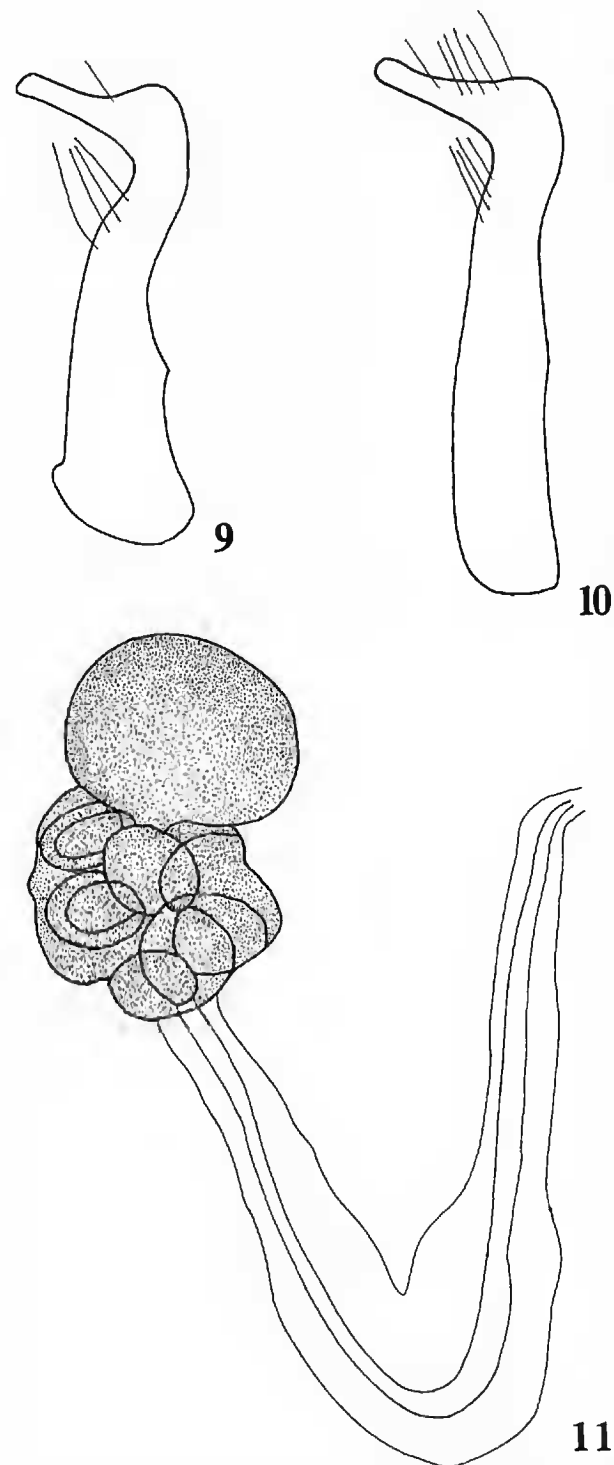
In *Lobogonius* the femora are unarmed, the scutellum before the middle is raised into two convex and obtuse tubercles, and the hemelytra are always macropter-



Figures 1–2. Female genital plates of *Sibuyanhygia sibulana* Brailovsky. Figure 1. Caudal view. Figure 2. Lateral view. Figures 3–5. Caudal view of the male genital capsule of *Sibuyanhygia* spp. Figure 3. *S. sibulana* Brailovsky. Figure 4. *S. atra* Brailovsky. Figure 5. *S. callejai* Brailovsky. Figures 6–8. Pronotum view of *Sibuyanhygia* spp. Figure 6. *S. sibulana* Brailovsky. Figure 7. *S. atra* Brailovsky. Figure 8. *S. callejai* Brailovsky.

ous. *Tachycolpura* like *Sibuyanhygia*, has the femora armed, the scutellum always flat, and the hemelytra are macropterous, brachypterous, or coleopteroid. *Tachycolpura* is easily distinguished by the narrow, moderately elongated body, with an average length from 16.48 to 18.25 mm, with the neck elongate, eventually narrowing basally, and antennal segment I is conspicuously longer than head length (Brailovsky et al. 1992). The body of *Sibuyanhygia* is shorter, relatively robust, with an average length from 10.60 to 12.30 mm, the head lacks a neck, and antennal segment I is shorter or slight longer than head length.

The genera of Colpurini previously known from the Philippine Republic (*Carvalhygia*, *Homalocolpura*, *Kekihygia*, *Typhlocolpura*, and *Hygia* with three subgenera *Colpura*, *Microcolpura*, and *Sphinctocolpura*) have the humeral angles



Figures 9–11. *Sibuyanhygia sibulana* Brailovsky. Figures 9–10. Parameres. Figure 11. Spermatheca.

rounded, and not exposed. In *H. (Colpura) obscuricornis* (Stål) and *H. (Colpura) pallidicornis* (Stål), the humeral angles are slightly exposed but the genae are armed (in *Sibuyanhygia* unarmed). In *H. (Sphinctocolpura) pictipes* (Stål), the humeral angles are also slightly exposed, and the genae are unarmed, but the hemelytra is always macropterous and the femora are yellow with orange-brown spots. In *Sibuyanhygia* the hemelytra are brachypterous, and the femora are black or orange-brown, with only the basal joint yellow.

Distribution.—Only known from the Philippine Republic.

Etymology.—Named for the Sibuyan Sea.

SIBUYANHYGIA SIBULANA BRAILOVSKY, NEW SPECIES
(Figs. 1–3, 6, 9–11, 15)

Types.—Holotype, male; data: PHILIPPINE REPUBLIC. Mindanao, Santa Cruz Mts. (Taloon Trail), 915–1525 m, 13 Sep (without year), C.S. Clagg. Deposited in

The Natural History Museum, London. Paratypes: one female; data: PHILIPPINE REPUBLIC. Mindanao, Mt. Apo (Todaya Plateau), 1525 m, 2 Sep (without year), C.S. Clagg. Deposited in The Natural History Museum, London. One female; data: PHILIPPINE REPUBLIC. Mindanao, Mt. Apo (Galog Riv.), 1830 m, 26 Sep (without year), C.S. Clagg. Deposited in The Natural History Museum, London. One male; data: PHILIPPINE REPUBLIC. Mindanao, Mt. Apo (Sibulan Riv.), 610 m, 8 Oct (without year), C.S. Clagg. Deposited in the "Colección Entomológica del Instituto de Biología, UNAM, México." Three females; data: PHILIPPINE REPUBLIC. Mindanao, Mt. Apo (Mainit Riv.), 1830–1980 m, 10 Sep to 24 Oct (without year), C.S. Clagg. Two deposited in The Natural History Museum, London, the other in the "Colección Entomológica del Instituto de Biología, UNAM, México." One female; data: PHILIPPINE REPUBLIC. Mindanao, Prov. Davao, E. slope Mt. Apo, 970–1070m, 22 Oct 1946, F.G. Werner (CNHM Philippine Zoological Exped. 1946–1947). Deposited in Field Museum Natural History, Chicago.

Description.—*Male* (holotype). Head, anterior lobe of pronotum, scutellum, connexival segments, dorsal abdominal segments I to VI and anterior third of VII, thorax, abdominal sterna, and genital capsule red-brown with following areas pale yellow to ochre: dorsal aspect of postocular tubercle with small discoidal spot, apex of scutellum, posterior edge of connexival segments III to VI, anterior lobe of metathoracic peritreme, and posterior edge of abdominal sterna V to VII; antennal segment I red-orange, and II to IV pale yellow, with basal joint of IV slightly darker; posterior lobe of pronotum, clavus and corium red-orange; hemelytral membrane creamy yellow, with veins darker; middle and posterior third of dorsal abdominal segment VII orange-hazel; rostral segments I and II light orange-hazel, and III and IV light yellow; coxae red-brown; trochanters yellow; fore femora light red-orange; middle femora light red-orange with basal joint yellow; hind femora light red-orange with dorsal longitudinal stripe pale yellow, running from the basal joint to the middle third; tibiae and tarsi light orange-yellow. *Structural characters.*—Pronotum: Humeral angles slightly elevated (Fig. 6). Hemelytra: Hemelytral membrane reaching anterior third of abdominal tergum V. Genital capsule: Posteroventral edge with pronounced U-shaped concavity, enclosed by two medium sized arms (Fig. 3). Parameres: Figs. 9–10.

Female.—Color: Similar to male. Connexival segments VIII and IX, abdominal terga VIII and IX, and genital plates red-brown. *Structural characters.*—Spermatheca: Fig. 11. Genital plates: Figs. 1–2.

Measurements.—First male, then female. Head length: 1.90 mm, 2.00 mm; width across eyes: 1.76 mm, 1.84 mm; interocular space: 1.04 mm, 1.08 mm; interocellar space: 0.46 mm, 0.48 mm; preocular distance: 1.22 mm, 1.18 mm; length antennal segments: I, 1.80 mm, 1.76 mm; II, 2.84 mm, 2.84 mm; III, 2.00 mm, 1.92 mm; IV, 1.54 mm, 1.60 mm. Pronotal length: 1.90 mm, 2.16 mm; width across frontal angles: 1.84 mm, 1.92 mm; width across humeral angles: 2.94 mm, 3.20 mm. Scutellar length: 1.08 mm, 1.32 mm; width: 1.04 mm, 1.26 mm. Total body length: 10.60 mm, 12.08 mm.

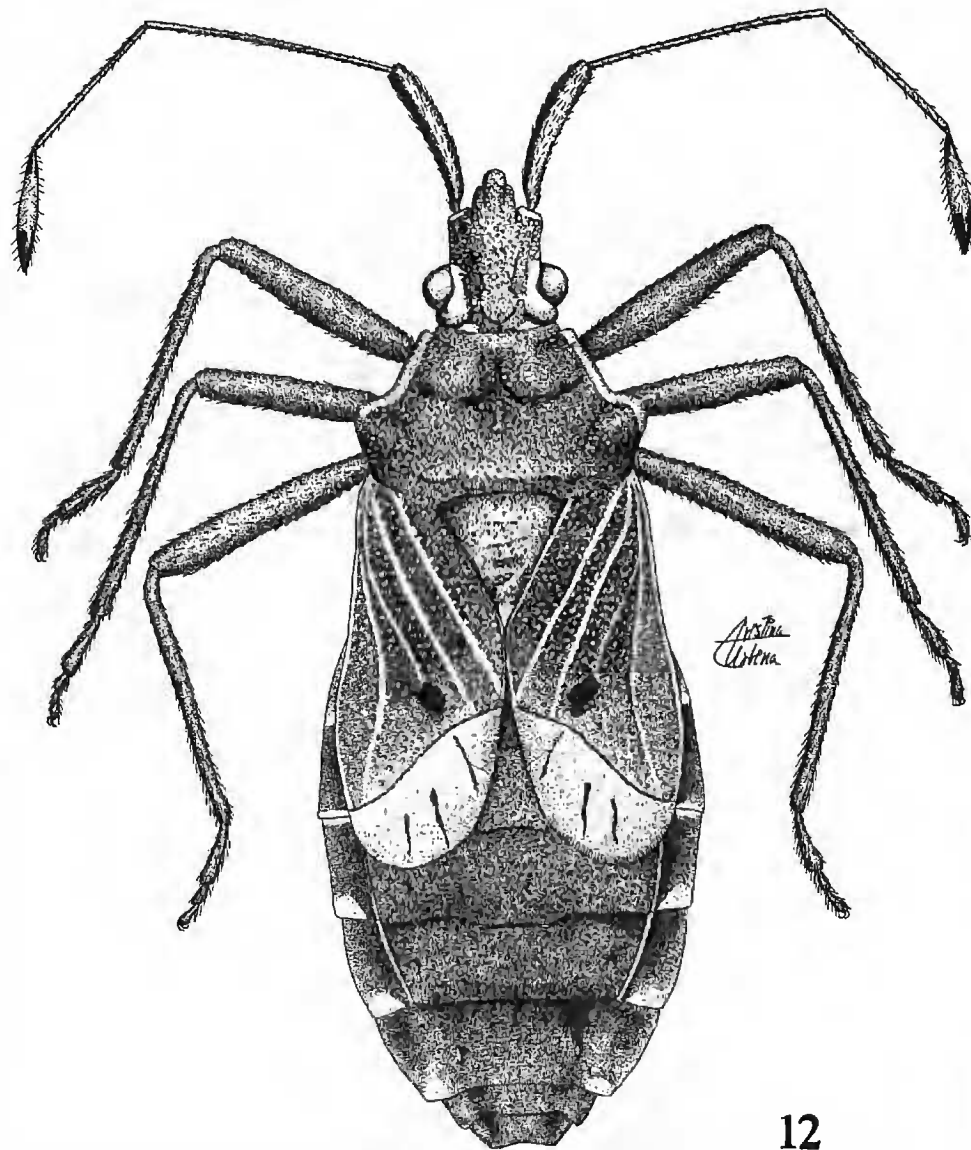
Variation.—1—Endocorial disc with or without red-brown discoidal spot. 2—Posterior edge of connexival segment VII yellow. 3—Abdominal tergum VII red-brown. 4—Posterior edge of pleural abdominal sterna III to VII ochre. 5—Connexival segments, and pleural abdominal sterna light red-brown with posterior edge yellow to ochre.

Etymology.—Named for the Sibulan River; a noun in apposition.

Material Examined.—See Types.

SIBUYANHYGIA ATRA BRAILOVSKY, NEW SPECIES (Figs. 4, 7, 14)

Types.—Holotype, male; data: PHILIPPINE REPUBLIC. Mindanao Island, Mt. Apo (Agko), 1000 m, 5 Oct 1978, Shinji Nagai. Deposited in Field Museum Natural History, Chicago. Paratype: 1 female; data: same as holotype. Deposited in the "Colección Entomológica del Instituto de Biología, UNAM, México."



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Figure 12. Dorsal view of *Sibuyanhygia callejai* Brailovsky.

Description.—*Male* (holotype). Coloration: Red-brown to black with following areas yellow to ochre: dorsal aspect of postocular tubercle with small discoidal spot, apex of scutellum, posterior third of connexival segments III to VII, anterior and posterior lobe of metathoracic peritreme, and posterior third of pleural abdominal sterna III to VII; antennal segment I red-brown, II to IV orange-hazel with basal joint of IV red-brown; hemelytral membrane creamy yellow with veins darker; rostral segments I to IV red-orange; coxae red-orange; trochanters yellow with apical third of I red-orange; fore femora red-brown; middle femora red-brown with basal joint yellow; hind femora red-brown with yellow longitudinal stripe running from basal joint to middle third; tibiae and tarsi red-orange. *Structural characters.*—Pronotum: Humeral angles conspicuously elevated and robust (Fig. 7). Hemelytra: Hemelytral membrane reaching anterior third of abdominal tergum VI. Genital capsule: Posteroventral edge with pronounced U-shaped concavity, enclosed by two robust arms (Fig. 4).

Female.—Color: Similar to male. Connexival segments VIII and IX, abdominal terga VIII and IX, and genital plates red-brown.

Measurements.—First male, then female. Head length: 1.96 mm, 2.02 mm; width across eyes: 1.88 mm, 1.86 mm; interocular space: 1.08 mm, 1.12 mm; interocellar space: 0.47 mm, 0.44 mm; preocular distance: 1.32 mm, 1.38 mm; length antennal segments: I, 2.08 mm, 2.08 mm; II, 3.00 mm, 3.08 mm; III, 2.12 mm, 2.20 mm; IV, 1.64 mm, 1.64 mm. Pronotal length: 2.08 mm, 2.12 mm; width across frontal angles: 1.76 mm, 1.80 mm; width across humeral angles: 3.44 mm, 3.52 mm. Scutellar length: 1.32 mm, 1.40 mm; width: 1.20 mm, 1.34 mm. Total body length: 11.70 mm, 12.15 mm.

Discussion.—Closely related to *S. sibulana* Brailovsky, but distinguished by the longer hemelytral membrane, more elevated humeral angles, mostly red-brown to black body, and longer and more robust arms on the posteroventral edge of male genital capsule (Figs. 3–4).

Etymology.—From the Latin, “atra”, meaning black.

Material Examined.—See Types.



Figures 13–15. Dorsal view of *Sibuyanhygia* spp. Figure 13. *S. callejai* Brailovsky. Figure 14. *S. atra* Brailovsky. Figure 15. *S. sibulana* Brailovsky.

SIBUYANHYGIA CALLEJAI BRAILOVSKY, NEW SPECIES

(Figs. 5, 8, 12, 13)

Types.—Holotype, Male; data: PHILIPPINE REPUBLIC. Negros Island, Parker Mt., col. Chapman (without date). Deposited in The Natural History Museum, London. Paratype: 1 female; data: same as holotype. Deposited in the "Colección Entomológica del Instituto de Biología, UNAM, México."

Description.—Male (holotype). Dorsal coloration: Head red-brown with tylus pale orange, and the area adjacent to eyes yellow; antennal segment I red-brown, II and III pale orange, and IV creamy yellow with basal joint pale orange and apical third dark yellow; pronotum, scutellum, clavus and corium pale orange with following areas yellow: anterolateral borders of the pronotum, external edge of humeral angles, and apex of scutellum; endocorium with red-brown discoidal spot near the apical margin; hemelytral membrane creamy yellow with veins brown; connexival segments dark brown with posterior third yellow; abdominal terga light red-brown with posterior third of VII yellow. Ventral coloration: Red-brown with following areas yellow: anterior lobe of metathoracic peritreme and anterior angle and posterior third of abdominal pleural margins III to VII; rostral segments orange-hazel; coxae red-brown; fore trochanter orange-hazel with basal joint yellow; middle trochanter yellow with orange-hazel reflections; hind trochanter yellow; fore femora red-orange; middle femora red-orange with basal joint yellow; hind femora red-orange with short yellow longitudinal stripe running from basal joint to anterior third; tibiae and tarsi light orange-yellow. *Structural characters*.—Pronotum: Humeral angles well developed, elevated, directed upward, and strongly higher than pronotal disc (Fig. 8). Hemelytra: Hemelytral membrane reaching middle third of abdominal tergum V. Genital capsule: Posteroventral edge with pronounced U-shaped concavity, enclosed by two short lateral lobes (Fig. 5).

Female.—Color: Similar to male. Connexival segments VIII and IX, abdominal terga VIII and IX, and genital plates red-brown with external edge of paratergite VIII and IX, and internal angle of gonocoxae I yellow.

Measurements.—Male first, then female. Head length: 1.84 mm, 2.02 mm; width across eyes: 1.70 mm, 1.88 mm; interocular space: 0.96 mm, 1.08 mm; interocellar space: 0.40 mm, 0.45 mm; preocular distance: 1.20 mm, 1.32 mm; length antennal segments: I, 1.92 mm, 2.00 mm; II, 2.90 mm, 3.04 mm; III, 2.00 mm, 2.04 mm; IV, 1.48 mm, 1.56 mm. Pronotal length: 1.88 mm, 2.08 mm; width across frontal angles: 1.64 mm, 1.80 mm; width across humeral angles: 3.40 mm, 3.64 mm. Scutellar length: 1.28 mm, 1.48 mm; width: 1.20 mm, 1.36 mm. Total body length: 11.15 mm, 12.30 mm.

Discussion.—Antennal segment IV of *S. callejai*, is creamy yellow with basal and apical third darker, and the anterolateral edge of pronotum and external edge of humeral angles yellow. In the other known species, antennal segment IV is yellow or orange and with only the basal joint darker, and the anterolateral edge and humeral angles are red-brown.

Sibuyanahygia callejai like *S. atra*, has the humeral angles well developed, elevated, directed upward and more strongly elevated than the pronotal disc, but the hemelytral membrane extends to the anterior edge of abdominal tergum V and the body is paler than *S. atra*, in which the hemelytral membrane extends to abdominal tergum VI.

Etymology.—Named for Dr. Ignacio Calleja Ahedo, distinguished Mexican odontologist.

Material Examined.—See Types.

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LITERATURE CITED

- Bergroth, E. 1916. New and little known heteropterous Hemiptera in the United States National Museum. Proc. U.S. Natl. Mus., 51(2150): 215–239.
- Bergroth, E. 1918. Studies in Philippine Heteroptera I. Phililipp J. Sci., 13: 43–126.
- Brailovsky, H. 1994. One new genus and two new species of Colpurini (Heteroptera: Coreidae: Coreinae) from the Philippine Republic. Ann. Entomol. Soc. Amer., 87(6): 745–750.
- Brailovsky, H. 1995. New genus and new species of Colpurini (Heteroptera: Coreidae) from the Philippine Republic. Proc. Entomol. Soc. Wash., 97(2): 250–257.
- Brailovsky, H. and E. Barrera. 1994. The genus *Homalocolpura* Breddin and description of five new species (Hemiptera: Heteroptera: Coreidae: Colpurini). Zool. Med. Leiden 68: 55–72.
- Brailovsky, H., E. Barrera, and W. Lopez-Forment. 1992. Revision of the genus *Tachycolpura* Breddin (Hemiptera: Heteroptera: Coreidae: Colpurini). Pan-Pacific Entomol., 68(2): 122–132.
- Breddin, G. 1900. Materiae ad cognitionem subfamiliae Pachycephalini (Lybantini olim). Ex Hemipteris-Heteropteris, Fam. Coreidae. Rev. Entomol. Caen, 19: 194–217.
- Stål, C. 1870. Hemiptera insularum Philippinarum. Ofv. Kongl. Vet.-Akad. Forh., 7: 607–776.
- Uhler, P.R. 1861. Rectification of the paper upon the Hemiptera of the North Pacific expedition. Proc. Acad. Natl. Sci. Phila., 1861: 286–287.

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